REMARKS

Claims 1-11, 13-16, 19-23, 25-26, 28-32 remain in the application for further prosecution. Claims 14, 20, and 28-30 have been amended. Claims 17, 18, 27 and 33-35 have been canceled in this Amendment.

Claims 36-40 were previously withdrawn, but have now been cancelled in this Amendment.

Claim Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1-11, 13-23 and 25-32 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,227,859 ("Sutter").

Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,302,125 ("Kownacki et. al."). The Applicants will pursue these method claims in a continuing application.

Reconsideration of Rejections Based on Sutter

The Applicants respectfully request reconsideration of the rejections based on Sutter. In the Office Action, the following statement is made:

> Sutter shows an implant 1, interior bore 14, feedback feature 17, **(this is proper to call a feedback feature because it is capable of functioning as claimed by stopping the insertion of the abutment when used together)**, threaded section 20, abutment 201, post 330 stem 210, feedback feature 212 and through bore as shown, abutment screw 601, head and threads as shown. **Feature 212 is also proper to call a feedback feature because it is capable of functioning as claimed when meeting the ledge 17 when in use together with the implant.**

Office Action, page 2 (emphasis added). The Applicants respectfully disagree with these statements regarding Sutter for at least two reasons. First, the suggestion that the bottom end 212 of Sutter's abutment 201 provides a "stopping" function against the ledge 17 of Sutter's implant 1 during the insertion process is directly contrary to teaching of Sutter. And second, if the bottom end 212 were to serve as a "stopping" feature against the ledge 17, an inherent gap or

seam would appear at the interface of the abutment's shoulder 225 and the implant's shoulder 11, allowing fluid to enter the cavity to create a bacterial haven.

Sutter explicitly teaches how the engagement of the abutment 201 and implant 1 occurs. In particular, the abutment 201 "seamlessly merges" with the implant 1 at the "joined shoulders 225 and 11." Sutter, Col. 11, lines 47-52. This is best seen in FIG. 19, which shows the shoulder 225 of the abutment 201 engaging the shoulder 11 of the implant 1. FIG. 19 also illustrates the fact that the lower end 212 of the abutment 201 does **not** engage the ledge 17 within the bore of the implant 1. Accordingly, contrary to the above-quoted statement in the Office Action, the lower end 212 of the abutment 201 and the implant's ledge 17 **never** engage or cooperate with each other to create a "feedback feature" indicating when the abutment is properly seated on the implant.

Furthermore, while the current rejection is under 35 U.S.C. §102, any suggestion to modify Sutter to create a "stopping" function with the bottom end 212 and the ledge 17 would render Sutter unsatisfactory for its intended purpose. As Sutter explicitly states, the abutment 201 "seamlessly merges" with the implant 1 at the shoulder 17, 225. This can only be accomplished if there is **no** engagement (or "stopping" function) between the bottom end 212 and the ledge 17 so that the axial forces that hold the abutment 201 on the implant 1 are entirely concentrated at the shoulder 225 of the abutment 201 and the shoulder 11 of the implant 10. Sutter wants this concentrated force at the abutment's shoulder 225 and implant's shoulder 211 for a good reason. Sutter, like all dental implant professionals, desires to minimize the seam or micro-gap at the interface of the shoulder 17 of the implant 1 and the shoulder 225 of the abutment 201. If there is a seam or micro-gap, then fluids can enter the cavities of the implant 1 and the abutment 201, creating a reservoir for bacteria that will lead to infection in the adjacent tissue as the bacterial-laden fluids pass back to adjacent tissue. Several patents in the record of the present application (references already considered by the Examiner) discuss this infection risk created at the interface of the implants and the abutment, including at least the following:

- 6,394,809 column 2, lines 30-34; "The single-stage implant comprises an anchoring portion for extending into and integrating with the jawbone and an integral gingival section that extends beyond the ridge of the jawbone. Because the gingival section is integral with the anchoring portion, **there is no seam in which bacteria may collect to cause infections**."

- 6,394,806, column 5, lines 60-65: "This downward pulling force on the cap 32 causes the lower surface 36 of the healing cap 32 and the top surface 18 of the implant 10 to form a seal (see FIG. 8C). **Advantageously, this prevents and/or minimizes leakage of saliva and bacterial contaminants into the implant 10 and thus prevents infection between stage I surgery and stage II surgery.**"

- 6,312,260, column 8, lines 37-44: "**On the other hand, if the healing cap is not tightened sufficiently, infection by bacteria or other contaminants may result in the implant body socket or in the gap between the healing cap and the implant body.** In addition, the socket in the implant body may fill with blood or other bodily fluids prior to attaching the healing cap if adequate care is not taken."

Consequently, creating the "stopping" function, and thus a "feedback feature," by engaging the lower end 212 and the ledge 17 will result in a large seam or micro-gap at the interface of the abutment shoulder 225 and the implant shoulder 11, yielding a substantially higher risk of infection to the patient.[1] Neither Sutter nor any other skilled artisan would advocate the addition of such a "stopping" feature to Sutter's system.

With regard to independent claims 1 and 10, Sutter's abutment 201 lacks a stem with a "feedback feature" that cooperates with the implant's feedback feature. Thus, these independent claims and their dependent claims are allowable.

Independent claim 11 calls for an implant having an internal feedback feature, an internal axial retention feature, a first internal anti-rotational feature, and a second internal anti-rotational feature. The Office Action does not address all the elements of claim 11, especially the details of the first internal anti-rotational feature and the second internal anti-rotational feature. Thus, independent claim 11 and its dependent claim are allowable.

Independent claim 14 has been amended to include the limitations of dependent claim 18. Sutter fails to disclose an abutment having a stem with a feedback feature providing a tactile indication to the practitioner to indicate when the abutment is properly seated. Nothing on the stem of Sutter abutment 201, including the lower end 212, provides a tactile feedback to indicate that the abutment 201 is properly seated in Sutter's implant 1. Thus, amended independent claim 14 is allowable.

Independent claim 20 has been amended to include the elements of dependent claim 27. Because dependent claims 28-30 were dependent on former claim 27, they have been amended

[1] It should be noted that normal manufacturing tolerances would prohibit a simultaneous engagement between the shoulders 225 and 11, and between the ledge 17 and lower end 225. More importantly, Sutter's explicit teaching is that there should only be engagement at the shoulders 225 and 11.

to now be dependent on claim 20. As stated above, there is no feedback feature on the stem of Sutter's abutment 201. Furthermore, there is no resilient section in the stem of Sutter's abutment 20 that expands outwardly into the "enlarged groove in response to said abutment being properly mated to said implant." The Office Action suggests that Sutter's "main cylindrical section" 14 of the implant bore is the "enlarged groove." The Applicants respectfully suggest, however, that this is an unreasonably broad interpretation of an "enlarged groove." Regardless, Sutter's main cylindrical section 14 does **not** cooperate with Sutter abutment 201 "to provide feedback." Nor does any feature on Sutter's abutment 201 "expand outwardly into said enlarged groove in response to said abutment being properly mated to said implant." As such, amended claim 20 and its dependent claims should be allowable over Sutter for these reasons as well.

Conclusion

It is the Applicant's belief that all of the pending claims are in condition for allowance and action towards that end is respectfully requested.

If any matters may be resolved or clarified through a telephone interview, the Examiner is respectfully requested to contact the Applicant's undersigned attorney at the number shown.

Respectfully submitted,

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